Project Title: Implementation of a robust/non-linear sensor fusion technique for inertial navigation systems

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Synopsis:

Inertial navigations systems play a vital role in various applications such as aerial vehicle navigation, autonomous car navigation, and human motion biomechanics. In most modern inertial navigations systems, sensor fusion techniques are being used to fuse various signals of inertial measurement units (sensor) and estimate the orientation of the object that the sensor is attached to accordingly. The purpose of this project is to implement a robust or nonlinear sensor fusion technique to provide accurate and reliable estimations in biomechanical applications. Such algorithm could be used to track the 3D position and velocity of an object moving in space.

M.Eng. students interested in undertaking this capstone project should contact Hossein Rouhani (hrouhani@ualberta.ca) providing their CV and a cover letter explaining their interest in the project.